

Notice of Allowability

Application No.

10/617,681

Examiner

VAN T. PHAM

Applicant(s)

KAMO ET AL.

Art Unit

2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 9/11/2006.
2. ☒ The allowed claim(s) is/are 56-65, have been renumbered as 1-2, 6-7, 3-5, 8-10, respectively.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

WAYNE YOUNG
SUPERVISORY PATENT EXAMINER

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9/11/2006 has been entered.

Allowable Subject Matter

2. The following is an examiner's statement of reasons for allowance:

Claims 56-65, have been renumbered as 1-2, 6-7, 3-5, 8-10, respectively, are allowed.

Walberg, see Figs. 2-4, discloses a method of starting up disk drive spindle motors in an array system having disk drives organized into groups which are started up separately so as to reduce the amount of electric current required by the array disk system, said method comprising: supplying current to start up a said spindle motor, and then supplying current to additionally start up one or more of said spindle motors other than said first group said spindle motors started up initially (see Fig. 1, col. 1, lines 11-30, col. 3, lines 1-9, col. 5, lines 10-21). However Walberg does not disclose a step of supplying current to start up a group of spindle motors, which is being more than one spindle motor.

The admitted art discloses the group of motors in the array disks system (see Fig. 3 and [0007]-[0009]).

The combination of Walberg and the admitted art, discloses a method of starting up disk drive spindle motors in an array disk system as claimed in claim 56, wherein said supplying steps are performed such that a spindle motor in start-up is supplied with a start-up current, and

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a spindle motor at steady-state is supplied with a steady-state current that is lower than said start-up current (see Figs. 1-2, abstract, cols. 3-4).

The combination of Walberg and the admitted art, discloses a method of starting up disk drive spindle motors in an array disk system as claimed in claim 56, wherein the time between power switch-on of the overall array disk system and start of driving the spindle motors is set independently for each of the groups of the disk drives so as to prevent overlap of the initial current among the groups (see Walberg Fig. 1, col. 1).

Walberg and the admitted art disclose a method of starting up disk drive spindle motors in an array disk system as claimed in claim 61, wherein after the start-up of the first group of spindle motors.

None of the cited references disclose or suggest the reserve power of a power supply that supplies the current to the first group of spindle motors is equal to the rated capacity of the power supply minus the amount of current required for maintaining the disk drives of the first group in the steady state.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Cited References

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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The cited references relate to a digital circuit interrupter includes a microprocessor programmed for tailored over current protection (Dougherty US 4,967,304) and disk system and power-on sequence for the same (Kamo et al US 6,397,294 and US 6,286,108); drive power sequencing (US 4,233,666).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to VAN T. PHAM whose telephone number is 571-272-7590. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on 571-272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

VP



WAYNE YOUNG
SUPERVISORY PATENT EXAMINER